

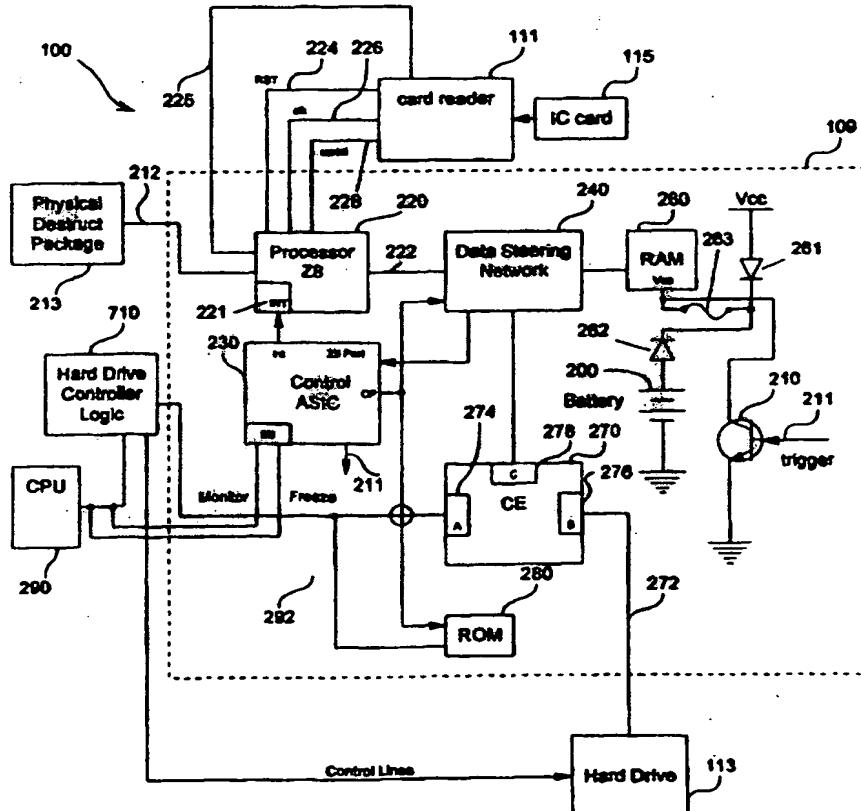
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(54) Title: PREBOOT PROTECTION FOR A DATA SECURITY SYSTEM

(57) Abstract

A secure computer controlling access to data storage devices via a card reader. A microprocessor-controlled card reader interface logically connected to the card reader and the central processing unit (CPU) of the computer reads and writes information from and to a card placed in the card reader and performs additional functions in response to commands received from the CPU. The card reader interface includes an encryption engine for encrypting data in a data storage device and a boot ROM containing verification program code executed during an initialization procedure. The verification program verifies that a valid user card has been placed in the card reader, reads one or more questions from the user card, asks the questions of the user and verifies the answers against the contents of the card. If authorization is verified, the card reader interface permits the user to access the encrypted data. Otherwise, the user is denied access to the data by one or more of the following methods: freezing the system bus, and requiring the user to reset the computer and re-enter the verification program; logically destroying the data in the data storage devices; and physically destroying the data storage devices.



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INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G06F1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO,A,93 24906 (INTEGRATED TECHNOLOGIES OF AMERICA) 9 December 1993 see the whole document	9,11,14, 15
Y	& US,A,5 327 497 (MOONEY ET AL) 5 July 1994 cited in the application ---	1,8,10, 16
Y	GB,A,2 181 281 (ISOLATION SYSTEMS) 15 April 1987 see abstract; figures 1-3 see page 1, line 59 - line 94 see page 2, line 5 - page 3, line 35	1,10
A	---	13

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2

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PCT/US 95/02579

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR,A,2 596 173 (BULL) 25 September 1987 see abstract; figure 1 see page 1, line 34 - page 5, line 17	8,16
A	---	2,5
A	US,A,5 212 729 (SCHAFFER) 18 May 1993 see abstract	3
A	US,A,4 757 533 (ALLEN ET AL) 12 July 1988 -----	4,17

2

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inten. Application No
PCT/US 95/02579

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO-A-9324906	09-12-93	US-A-	5327497	05-07-94
		AU-B-	4528293	30-12-93
		CA-A-	2137274	09-12-93
		EP-A-	0643858	22-03-95
		JP-T-	7508604	21-09-95
US-A-5327497	05-07-94	AU-B-	4528293	30-12-93
		CA-A-	2137274	09-12-93
		EP-A-	0643858	22-03-95
		JP-T-	7508604	21-09-95
		WO-A-	9324906	09-12-93
GB-A-2181281	15-04-87	CA-A-	1267234	27-03-90
		US-A-	5202997	13-04-93
FR-A-2596173	25-09-87	DE-A-	3779692	16-07-92
		EP-A, B	0246119	19-11-87
		HK-A-	48995	07-04-95
US-A-5212729	18-05-93	NONE		
US-A-4757533	12-07-88	NONE		

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